

CSAs – Regulating counterparty risk through the use of collateral payments

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Various types of financial instruments worth vast amounts are traded globally on a daily basis. These transactions entail a risk that a counterparty will default on his leg of the trade. One common way to limit these risks is a bilateral collateral agreement, called a credit support annex (CSA).

1. Introduction

Trading in financial instruments involves counterparty risk. From trade date until settlement date, a party to a trade will face a risk that the counterparty will default on his end of the contract. A change in market conditions can make substitution for a market trade costly (substitution cost). Since the risk of both substantial market volatility and counterparty uncertainty increases over time, counterparty risk is greater the longer the time between trade date and settlement date. This is primarily the case for various kinds of “long-dated” derivatives trades.

In foreign exchange trades, counterparty risk is, all else being equal, greater than in trades involving only one currency. In addition to counterparty risk associated with changes in market conditions, as mentioned in the preceding paragraph, a currency trade will also be subject to counterparty risk associated with the settlement of the trade. Foreign exchange trades take place in principle in two independent payment systems, and there is a risk of being obliged to deliver currency that has been sold before receiving confirmation of receipt of currency bought. This involves uncertain exposures and a risk of losing the principal of the trade. Nevertheless, the launch of the CLS currency settlement system in 2002 has eliminated most of the risk associated with currency settlement. Settlement risk associated with foreign exchange trades will not be discussed further in this article.

Market participants manage their counterparty risk by their choice of counterparties and instruments and maturities of their trades. Beyond this, risk can be mitigated by the use of central counterparties or bilateral margin agreements, called credit support annexes (CSAs).

A central counterparty (CCP) is an entity that interposes itself between buyer and seller. Traders will then be exposed only to a single counterparty. Strict require-

ments have been set for risk management at a central counterparty². By interposing itself in a trade, a central counterparty mitigates the risk of counterparty insolvency prior to settlement or of changes in market conditions that prevent a counterparty from honouring the contract. For standardised exchange-traded derivatives, the use of central counterparties is common. On the other hand, traders are free to decide whether to use central counterparties for over-the-counter (OTC) derivatives. According to BIS (2010) the notional amount of outstanding global exchange-traded derivatives was around USD 70 trillion as at December 2010, while as at the same date the equivalent measure of OTC derivatives was estimated to be USD 600 trillion. In the wake of the financial crisis, it has been discussed whether to make use of central counterparties obligatory for all standardised derivatives transactions. The G20 reform agenda, aimed at strengthening the safety and resilience of financial markets, includes requiring all standardised OTC derivatives trades to be centrally cleared and reported to trade repositories by the end of 2012.

Nonetheless, today the most common way to limit counterparty risk in OTC derivatives transactions is through the use of CSAs. In the remainder of the article, I shall examine more closely how CSAs are structured and how they serve to mitigate counterparty risk in derivatives transactions.

2. Credit support annexes (CSAs)

CSAs regulate counterparty risk in derivatives trades. CSAs are one of the parts making up an ISDA Master Agreement, the master contract for OTC derivatives transactions. See separate box for a detailed discussion of the ISDA framework.

CSAs regulate counterparty risk in a derivatives con-

¹ I am grateful to Farooq Akram, Bjørn Bakke, Nathalie Berner, Per Olav Ervik (DNB), Sindre Noss (DNB), Ketil Johan Rakkestad, Knut Sandal, Norman Robert Spencer and Olav Syrstad for useful comments. Parts of the article is based on an article in Norwegian published in *Penger og Kreditt* 1/2011.

² Standards for this have been defined by the CPSS/IOSCO and by European central banks in collaboration with the Committee of European Securities Regulators (CESR). See CPSS/IOSCO (2004) and ESCB/CESR (2009). CPSS/IOSCO (2004) is currently being evaluated.

tract from trade date to settlement date. This involves posting collateral to the counterparty. Market participants set exposure limits to one another, and agree on the frequency of portfolio measurement and collateral posting, as well as on minimum amounts to be transferred. Based on parties' net exposures to one another in derivatives contracts at any given time, collateral is exchanged between parties until maturity. Although spot trades are ordinarily not collateralised, market participants take counterparty risk into account through their choice of counterparties and exposure limits.

Under CSAs, collateral may be posted in the form of cash or of high quality, highly liquid securities. According to Norwegian market participants, cash is used almost exclusively in the European interbank market, while government securities may be posted with other customers. Posting securities as collateral is generally more common in the US than in Europe.

Collateral posting varies between products (see Charts 1 and 2). The *ISDA Margin Survey³ 2009* shows that there are differences both in the number of derivatives trades and how much of the exposure in these trades is collateralised. For OTC derivatives overall, approximately 2/3 of all trades and all exposure are collateralised in this way. A likely explanation for much of the uncollateralised exposures is agreements by market participants to accept uncollateralised exposures up to a certain level.

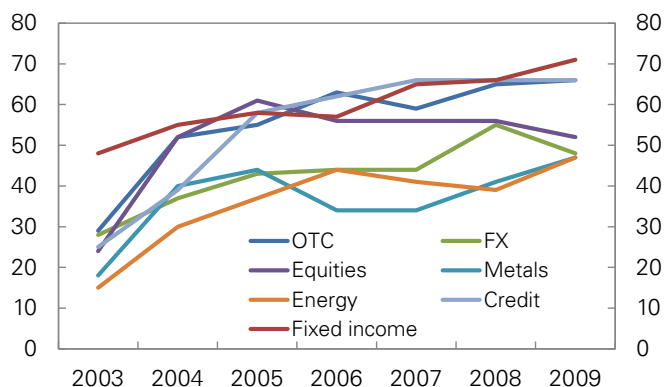
Legal matters

ISDA agreements are subject to either US or English law. English law is more common between European market participants. One difference between agreements subject to US and to English law is the administration of collateral to be exchanged. Under US law, a third-party custodian manages posted collateral, while under English law, collateral is posted directly with the counterparty. Cash payments are made directly to and from counterparty accounts, with no restrictions on counterparties' use of these funds.

In the event of default, the party that is not in default may make the default public. This party will then notify the party in default, stating the transaction's substitution date. After that date, the value of all transactions and posted collateral covered by the ISDA agreement will be netted. If the party has a receivable from an insolvent counterparty, this will be lodged as a claim against the estate. In the opposite case, amounts owed will be paid in.

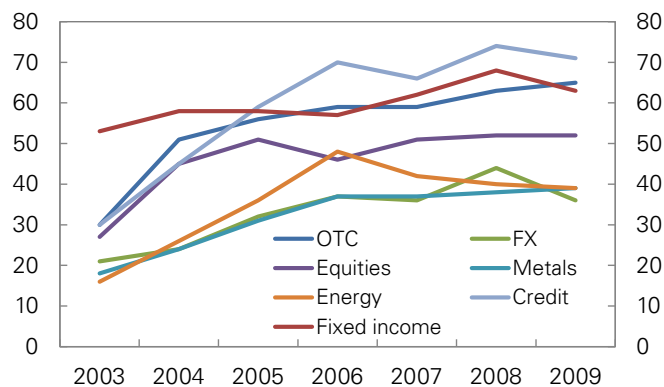
Defaults occur most often during crises, when market prices are highly volatile, and when valuing a claim in

Chart 1 Collateralised derivatives trades. Percentage of trade volume. 2003–2009



Source: *ISDA Margin Survey 2009*.

Chart 2 Collateralised derivatives trades. Percentage of exposure. 2003–2009



Source: *ISDA Margin Survey 2009*.

an insolvency situation, pricing may be difficult. The standard procedure is to send a valuation request to five leading price providers. If fewer than three price providers respond, a party may document the probable correct price on the basis of observable market prices, i.e. yield curves or the like, depending on type of product. For simple products, such as interest rate or currency swaps, interest rates and exchange rates are generally all that are required. These are liquid products for which a correct price can be documented under normal market conditions. In the event of a dispute over pricing, an English or US court (depending on the legal system under which the contract was written) can act as final arbiter. Electing to make public a counterparty default can have a significant impact on the value of a position. The Lehman Brothers bankruptcy in 2008 showed that this possibility was inadequately addressed in agreements between parties (see box on ISDA agreements).

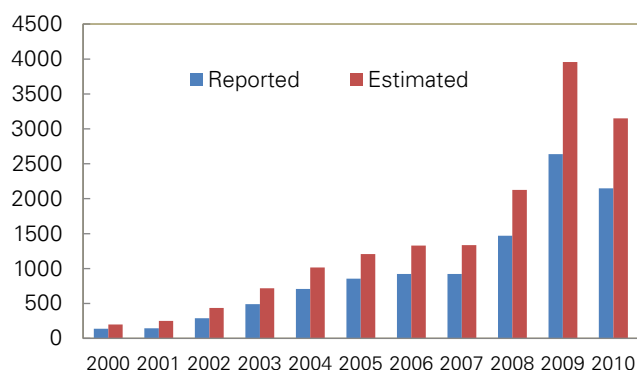
³ The ISDA Margin Survey is an annual, voluntary survey of ISDA members' collateral agreements at the beginning of the year.

After the financial crisis of 2007–2009

Following the financial crisis, market participants have been more aware of the need to mitigate market risk in derivatives trades. This has resulted in more frequent measurements of portfolio value and lower limits for uncollateralised counterparty exposures, resulting in more frequent exchanges of collateral.

Chart 3 shows that the value of collateral posted under CSAs surged from the 2008 survey to the 2009 survey, and then fell back somewhat in the survey for 2010. Higher market volatility and risk premiums (spreads) in recent years have increased risk exposure, resulting in

Chart 3 Reported and estimated collateral. USD billions. 2000–2010



Source: ISDA Margin Survey 2010.

International Swaps and Derivatives Association (ISDA)

ISDA is a trade association for financial market participants with a global membership. The association develops a framework of agreements with transaction documentation for use in all kinds of bilateral derivatives trades. ISDA agreements are important for mitigating the operating and market risk associated with derivatives trades.

Participants have an ISDA agreement with each counterparty. This agreement governs all derivatives products parties trade with each other. The actual agreement is modular and is in four parts, which together comprise an ISDA agreement:

- *Master Agreement*
- *Schedule*
- *CSA*
- Confirmation of the transactions between the parties entered into at any given time

The wording the *Master Agreement* is identical for all ISDA agreements. The Master Agreement governs all fixed aspects of the contractual relationship, such as choice of law and general rights and obligations in the event of insolvency. This is comparable to a standard loan agreement, except that obligations are bilateral. The agreement is subject to either English or US law. English law is the most common for European parties. The Master Agreement entitles parties to net their mutual exposures. This has benefits for liquidity, in addition to lowering exposures in order to enable parties to meet capital requirements.

There is a 1992 version and a 2002 version of ISDA agreements. The 2002 agreement is more flexible in dealing with insolvency, giving parties more freedom to agree on how to price underlying instruments. ISDA members receive access to *netting opinions*, legal opinions which document the validity of netting agreements under the laws of the counterparty's domicile. ISDA also provides access to a *collateral opinion*, which documents that collateral posted under a CSA cannot be set aside in the event of insolvency.

The *Schedule* portion of the agreement governs the bilateral portions specific to the particular Master Agreement. In the Schedule, the parties agree on exposure limits and products that may be traded. Following the Lehman Brothers bankruptcy in September 2008, some counterparties discovered that their agreements with Lehman Brothers did not include the corporate parent, but only subsidiaries that did not file for bankruptcy until a few weeks later.¹ For that reason, parties have been careful to include a cross-default provision to apply to any parent and/or subsidiary of the counterparty.

A credit support annex (CSA) is an annex to an ISDA agreement. The CSA portion governs counterparty risk in a derivatives contract from trade date to settlement date. Counterparty risk is managed by posting collateral. In the CSA, parties set exposure limits to one another, the frequency of portfolio measurement and collateral postings and minimum amounts to be transferred.

¹ See Parker and McGarry (2009).

higher margin requirements. In the period 1999 to 2009, collateral in circulation grew at a rate of 35 per cent. According to ISDA (2010), BIS estimates show that gross credit exposure to OTC derivatives grew by only 13 per cent in the same period.

These developments indicate that a larger share of counterparty exposures in derivatives trades under CSAs is collateralised. This by itself serves to reduce the risk in these trades. Use of more liquid collateral, such as cash and government securities, also makes a contribution. According to *ISDA Margin Survey 2010*, cash and government securities' share of collateral has grown in recent years. At the end of 2009, over 80 per cent of the collateral received and posted by survey respondent counterparties was in cash. Including government securities brings the total to between 90 and 100 per cent.

Intraday fluctuations between daily collateral payments, especially in currencies whose exchange rates can be especially volatile and have a considerable impact on the exposures, remain a considerable risk factor for market participants. This also holds true for the risk of substantial changes in exchange rates between trade date and settlement date of spot foreign exchange trades.

3. Conclusion

Counterparty risk associated with trading in financial instruments can be substantial. This applies especially to certain types of derivatives trades with long-dated contracts. The most common way to mitigate this risk for OTC derivatives transactions is to use bilateral CSAs. CSAs enable parties to a trade to reduce risk by posting collateral to counterparties. Counterparties set exposure

limits to each other and agree on the frequency of portfolio measurement and posting collateral and on minimum amounts to be transferred. On the basis of parties' net exposures to one another in derivatives contracts at any given time, collateral is exchanged between parties up until maturity.

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